Homestead

Wildlife Report

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For:
St. Joe Ranger District
Idaho Panhandle National Forests

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Reported mileages are estimates and may vary depending on how they are rounded and what models and equations they are used for or result from.

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Wildlife

Introduction

This document details the analysis and discloses the potential effects on Threatened, Endangered, Proposed, Forest Service Sensitive species, and focal wildlife species from the Homestead Project alternatives on the St Joe Ranger District of the Idaho Panhandle National Forests (IPNF). The St. Joe Ranger District has conducted an analysis of the existing forest conditions in the project area, and has identified about 1,238 acres of the approximately 16,757-acre project area that would benefit from a variety of treatments. The following is the prescription for the project:

- Clear Cut w/Reserves = 263 ac
- Commercial Thin = 90 ac
- Irregular Shelterwood = 93 ac
- Seed Tree = 401 ac
- Shelterwood = 391 ac

Vegetation in the immediate analysis area is dominated by grand fir and western larch. No timber harvest would occur in the project area's old growth stands or in stands where timber harvest has occurred relatively recently.

To facilitate the proposed timber harvest, approximately 4.3 miles of new and 2.8 miles of temporary roads would be constructed. In addition, 4.8 miles of road reconstruction and 27.6 miles of road will be decommissioned. After replanting is complete in the harvest units, the roads would be stored for future administrative use. Temporary roads are roads that are constructed to access landings and are rehabilitated upon completion of all harvest activities. The temporary roads would be recontoured after use to the approximate shape of the surrounding terrain. These temporary road segments are generally on dry ridgetop locations and are not located in wet/moist areas.

Regulatory Framework

The regulatory framework providing direction for the management of wildlife habitat most pertinent to this analysis comes primarily from the following sources:

- The Endangered Species Act of 1973 (ESA), as amended
- National Forest Management Act of 1976 (NFMA)
- The Migratory Bird Treaty Act of 1918, as amended
- IPNF Forest Plan (USDA Forest Service 2015)
- Forest Service Manual (FSM) and Handbook (FSH) direction

Following is a summary of regulatory guidance and its relation to the management of wildlife species and habitats on the IPNF.

Threatened, Endangered and Proposed Species

The National Forest Management Act (NFMA) requires projects to be consistent with Forest Plans, which for this project is the Idaho Panhandle National Forest 2015 Revised Land Management Plan (Forest Plan). The IPNF Forest Plan provides additional direction to "manage vertebrate wildlife habitat to maintain viable populations" of wildlife and "to contribute to the

conservation and recovery of listed species" in accordance with species recovery or management plans (USFS, 1987).

The Endangered Species Act (ESA) requires the Forest Service to assist in the recovery of threatened, endangered, and proposed (TEP) species and the ecosystems upon which they depend. Section 7 of the ESA directs federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered (T&E) species or result in the destruction or adverse modification of their critical habitat. The IPNF is required to consult with the U.S. Fish and Wildlife Service (USFWS) if a proposed activity may affect individuals or habitat of a listed species. The direction requires the FS to complete biological assessments to document whether projects would likely have adverse effects on identified habitats or individuals of threatened or endangered animals.

On September 17, 2019, the USFWS online endangered species list was checked for the Homestead project. Terrestrial endangered and threatened wildlife species on the list that may occur within the project area (Shoshone County) are limited to Canada lynx (*Lynx canadensis*). Per a June 15, 2016 letter from the USFWS (W-001), the status of the wolverine is proposed; and their concurrence with the programmatic biological assessment is still applicable. A proposed rule was published on October 18, 2016 (USFWS, 2016).

Sensitive Species

The Forest Service Manual directs the Regional Forester to identify sensitive species for each National Forest where species viability may be a concern. The direction requires the Forest Service to manage the habitat of the species listed in the Regional Sensitive Species List to prevent further declines in populations, which could lead to federal listing under the Endangered Species Act.

Effective May 27, 2011, the regional forester updated the sensitive species list for the Northern Region of the Forest Service (W-018). USDA Forest Service policy (FSM 2670) requires a review of programs and activities through a biological evaluation, to determine their effect on sensitive species. Sensitive species are determined by the Regional Forester (FSM 2670.5) and are those species for which population viability is a concern. The Idaho Panhandle National Forests (IPNF) Forest Plan standard states that habitat of sensitive species listed in the Regional Sensitive Species List (W-002) will be managed to prevent further declines in populations that could lead to federal listing under the Endangered Species Act (USFS, 1987).

Focal Species

Management Indicator Species (MIS) were identified in the Forest Plan Revision process and were proposed because they represented an issue or concern. These wildlife MIS species – elk and the landbird assemblage – were not selected because of a viability concern, and their viability was not to be analyzed or monitored at the project level (USFS, 2013). On June 23, 2016, the IPNF administratively changed the monitoring under the Plan to comply with the 2012 Planning Rule (W-019). At that time, MIS were removed and the landbird assemblage (Olive-sided Flycatcher, Dusky Flycatcher, Hammond's Flycatcher, Chipping Sparrow and Hairy Woodpecker) were added as Focal Species to monitor the integrity of terrestrial vegetation structure and function.

The focal species concept uses the coarse-filter approach for providing diversity of plant and animal communities and the persistence of native species in the planning area. Therefore, it is

inappropriate to analyze effects to focal species at the project level. Instead, focal species are used to monitor effects of the Plan (PF:W-003), and will be discussed in biannual monitoring evaluation reports. The landbird assemblage is monitored at the Forest-level scale by the ongoing effort of the Integrated Monitoring using Bird Conservation Regions.

Elk, although not protected under any legal framework, is an important species to the Forest Service. The majority of wild elk are dependent on the habitat provided by the National Forests and spend all or part of their lives on our lands. They are an important species from a recreational perspective, whether it is through wildlife watching or hunting and hence, important economically, for many small, rural communities throughout Montana and Idaho. With the change from MIS to focal species; elk only needs to be analyzed for effects to elk security habitat. Other aspects of elk habitat can be analyzed if important to the project.

Other Wildlife Species

The Migratory Bird Treaty Act (MBTA), as amended, made the taking, killing or possessing of migratory birds unlawful. Executive Order 13186 of 2001 clarified the responsibilities of Federal agencies regarding migratory bird conservation and directed Federal agencies to evaluate the effects of Federal actions on migratory birds with an emphasis on species of concern. The Executive Order also directed Federal agencies to develop a memorandum of understanding (MOU) with the Fish and Wildlife Service (FWS) regarding their role with respect to the MBTA.

In December 2008, the Forest Service entered into an MOU with the Fish and Wildlife Service that further clarified the responsibility of the Forest Service to protect migratory birds (USFS and USFWS 2008). In the MOU, the Forest Service agreed to consider the most up-to-date Fish and Wildlife Service list of Birds of Conservation Concern when developing or amending land management plans, and to evaluate the effects of agency actions on migratory birds within the NEPA analysis process, focusing first on species of management concern along with their priority habitat and key risk factors. For the Idaho Panhandle National Forests, the bird species of management concern include those species designated as sensitive and focal species.

In December 2017 the Principle Deputy Solicitor for the United States Department of the Interior issued Memorandum 37050 which determined that the MBTA does not prohibit incidental take of migratory birds (PF: W-020). The USDA Forest Service MOU with the Fish and Wildlife Service expired December 31, 2017. The MBTA and the related Executive Order remain in place as do all related FWS regulations and permitting processes. Migratory birds are monitored through data collected by the Bird Conservancy of the Rockies and their Integrated Monitoring of Bird Conservation Regions (IMBCR).

Under the Revised Forest Plan (2015) raptors, in general, are covered by FW-GDL-WL-20 requiring that management activities on NFS lands avoid/minimize disturbance to known raptor nests. The new plan has no specificity for surveying for active raptor nests contractors and FS personnel are encouraged to report any know raptor nests to the district biologist. If occupied nests are identified in the project area seasonal restrictions will be put in place in order to ensure the fledging of chicks.

For passerines and other species, healthy, multi-aged, diverse forests are key to sustaining healthy populations, which is what this project is seeking to accomplish. In a literature review by Haulton (2008) no evidence was found to substantiate the claim that nesting season logging activities have a negative population-level impact on Neotropical migratory birds. In contrast, many scholarly publications report forest management activities improved habitat conditions (e.g., Brawn et al.

2001, Keller et al. 2003), resulting in increased avifaunal abundance (e.g., Baker and Laki 1997, Keller et al. 2003, Campbell et al. 2007, nest success (e.g., Weakland et al. 2002), and species diversity (e.g., Costello et al. 2000, Keller et al. 2003, Campbell et al. 2007, Augenfeld et al. 2008) across managed forest landscapes. Contradictory, creating a monoculture forest, such is occurring in China, DOES have a negative effect on avian diversity (Sreekar et al. 2016)

Scope of the Analysis

Geographic Scope

Direct, indirect, and cumulative effects were considered individually for each wildlife species and associated habitat to arrive at a final determination of effects. For those species unaffected by the proposal, additional analysis of direct, indirect, or cumulative effects was not necessary. The species' status, habitat conditions, and population trends across the appropriate scales were reviewed to consider the potential effects from the project in concert with larger scale trends, as well as national forest-level and regional-level goals. See Table 1-B for a list of species not analyzed in detail and Appendix C for preliminary analysis information on these species.

For species analyzed, National Forest System (NFS) lands within the defined Homestead Project area were used as the cumulative effects analysis area. This area is approximately 16,757 acres and is large enough to accommodate at least single home ranges for highly mobile species or to sustain the complete life cycle of most non-migratory wildlife as well as breeding and nesting habitat for migrating birds.

To assist in management of elk hunting Idaho Fish & Game has established twenty-eight elk zones throughout the state and within those zones hunting units. The Homestead project is located entirely within Elk Management Unit (EMU) 7-6, which is the geographic scope for the elk security analysis.

Temporal Scope

The temporal scope of the analysis is a function of the nature of the proposal, the geographic scope of the analysis, ongoing management goals/actions, and natural events. The analysis assesses effects based on both existing conditions at the time of the analysis and potential conditions (e.g., capable habitat that may or may not be currently suitable) at some undetermined time in the future. The analysis would provide a representation of effects until, at some point in time, future unforeseeable actions or events result in appreciable change. The temporal scope of the analysis would be influenced by the location and nature of future management actions and natural events. The time period that project-related disturbance may be present is expected to be from five to eight years, based on a five-year timber sale contract and additional post-sale fuel treatments. The effects of vegetation management from this project may be still apparent 50 or more years beyond this, barring other natural or artificial disturbance in the area.

Analysis Methods

The appropriate methodology and level of analysis needed to determine potential effects are influenced by a number of factors, including the purpose and need for the proposal, the nature of the proposal, various regulations/policies, potential for impacts, the risk to resources and species, and the information necessary for an informed decision.

There is some level of uncertainty associated with any analysis methodology: habitat associations are complex, some variables may be unknown or not described, and available data may not be as specific as that used in the scientific literature. However, this analysis is based on the most applicable scientific literature and uses the best available data. This information was validated, updated, and augmented by field review, aerial imagery, and reasonable assumptions based on current and previous management actions, professional judgment, and the combined knowledge of people from various sources (e.g., IDT members, public input). The methodology is commensurate with the existing knowledge, existing data, and the risks associated with the proposal. The analysis allows for a comparison of potential effects by alternative and a decision based on environmental consequences. Specific parameters for individual species are discussed in the "Methodology" section for each species analyzed.

Past actions and events including timber harvest, wildfire, road and trail construction, fire suppression, and insect/disease outbreaks on the St Joe Ranger District have influenced the existing availability and distribution of wildlife habitat. All past, present, and reasonably foreseeable actions listed in Table 1 were reviewed for their relevance to the wildlife analysis and their potential effects on wildlife. Those actions vary in their potential for impacts on wildlife, the consequences of potential impacts, the measurability of effects, and how they are measured. Some actions may have impacts, but any measurable effects on wildlife are already factored into the analysis (e.g., road maintenance is a present and reasonably foreseeable action that may contribute to disturbance levels, but is a part of the impacts measured by miles and density of motorized routes). Also, some actions occur at a level that does not have a measurable effect (e.g., cutting Christmas trees for personal use or berry picking) or can't be quantified for measurement because of their stochastic nature and the inability to predict their extent (e.g., access for fire suppression).

Some wildlife species require a detailed analysis and discussion to determine the context and intensity of effects. Others may not be impacted, impacted at a level that is inconsequential, or potential impacts are adequately addressed through the design of the project. Generally, these elements do not require a detailed discussion and analysis. Some have argued that historical information is central to the analysis of cumulative effects, but this appears to contradict current Council on Environmental Quality (CEQ) direction that NEPA is "forward-looking," and requires analysis of "the identifiable present effects of past actions to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the agency proposal for action and its alternatives may have a continuing, additive and significant relationship to those effects" (CEQ 2005). Activities such as past timber harvest, wildfire and fire suppression, and insect/disease infestations may have substantially affected wildlife habitat, but these effects have resulted in the current stand structure/composition and are incorporated into the discussion of current conditions (see Affected Environment). Since these effects have already been factored in, they would not incrementally add to the effects of the proposed action(s) in a measurable way. As a result, these past actions and events do not receive detailed discussion in the "Cumulative Effects" sections.

More specific discussions regarding the analysis methodology can be found in the sections on individual species.

Issue Indicators

Potential effects, by relevant species, were identified and categorized as discussed in the Analysis Methods section above based on habitat relationships, scientific literature on effects associated

with vegetation management, public motorized access, and the proposed alternatives. Measurement criteria are based on the types of potential effects, scientific literature (including conservation strategies if available), the nature of the proposal, and applicable data. The discussion below displays the indicators that would be used to measure effects on wildlife species. Indicators for each species vary and are based on those factors that could result in measurable effects (positive or negative) to the species. For most species being analyzed, appropriate habitat parameters were measured to distinguish potentially suitable habitat (specific parameters for individual species are discussed in the "Methodology" section for each species analyzed). A discussion of the changes in suitable habitat for each relevant species and the effects on species are disclosed in the "Environmental Consequences" section discussions.

Effects of Timber Harvest and Road Construction on Wildlife Habitat – Proposed timber harvest and road construction may fragment habitat for Sensitive and Focal Species; affect travel corridors for wildlife; affect interior forest habitat; and have cumulative effects on species and their habitat.

Issue Measurement Criteria:

- **Relevancy to determine the level of analysis**: Evidence of species occurrence, capable or suitable habitat present, potential for the proposed action to affect a species or its habitat.

- **Elk**: Change in disturbance and elk security which is defined as generally timbered areas greater than 250 acres over ½ mile from a motorized route (PF: W-004).

Table 0-A. Past, Present, and Reasonably Foreseeable Actions Potentially Cumulatively Affecting Wildlife

Action	Past	Present	Reasonably Foreseeable	Discussed Under Cumulative Effects*	Explanation
Timber harvest and associated activities	X		X	Yes	Effects on habitat (e.g. forest structure and composition) of past timber harvest are measured in existing condition.
Wildfires	X	-	unknown	No	Effects of past wildfires on habitat have been factored into the existing condition.
Fire suppression	X	X	X	Yes	Effects on habitat (e. g. forest structure, composition and snag numbers) are factored into existing condition. Potential future fire suppression addressed in cumulative effects.
Road construction	X	-	-	No	Effects on open road densities and secure habitat from past actions are factored into existing condition.
Road decommissioning	X	-	-	No	Effects on open road densities and secure habitat from past actions are factored into existing condition.
Herbicide spraying for noxious weeds	X	X	X	No	This activity would not make appreciable habitat modifications. Potential effects are localized and inconsequential at the project-level scale.
Tree planting	X	-	-	No	Effects of past tree planting and fill-in replanting are captured in the existing condition.
Precommercial thinning	X		X	Yes	Effects of past pre-commercial thinning (PCT) on habitat (e. g. stand density and composition) are measured in existing condition. Ongoing and potential future PCT addressed in cumulative effects
Road maintenance	X	X	X	No	Unable to distinguish effects from public activities. Potential effects are measured by open road densities.
Public firewood gathering	X	X	X	Yes	Past effects are included in the existing condition for snag numbers and availability. Potential effects are analyzed with snag and cavity habitat.
Public use of motorized vehicles	X	X	X	Yes	The past effects are included in the existing condition for open road density. Potential effects addressed with elk analysis.
Other public recreational activities such as berry picking, hunting, hiking, etc.	X	X	X	Yes	Addressed in cumulative effects.
Splash dams for log transport	X				

Action	Past	Present	Reasonably Foreseeable	Discussed Under Cumulative Effects*	Explanation
Stream channelization for log transport	X				
Travel Plan implementation	X	X	X		
Trail maintenance	X	X	X		
Outfitter & Guide permit in Project Area					

Species Analyzed in Detail

Table 1-A summarizes the wildlife species and wildlife habitat components analyzed in more detail, the rationale for analysis (and conditions that influence the scope of analysis), and a brief description of their habitats.

Table 1-A. Wildlife Species Analyzed in Detail

Common Name (*Scientific Name*)	Habitat	Rationale for Detailed Analysis
Sensitive species		
Fisher (*Pekania [Martes] pennanti*)	Mesic, contiguous mature forest habitats.	The project area contains suitable habitat for fisher

Species Not Analyzed in Detail

A preliminary analysis was conducted for each potentially affected wildlife species and their habitat to determine the scope of project analysis. The species listed in Table 1-B would not likely be affected by proposed activities because: 1) they do not have suitable habitat or are not regularly present or expected to be in or near the proposed activities; or 2) they are affected at a level that does not increase risk to the species, or potential effects have been adequately addressed by altering the design of the project. For these reasons, these species were not analyzed in detail. Preliminary analysis information for species not analyzed in detail is located in Appendix C of this document.

Table 1-B. Wildlife Species Not Analyzed in Detail

Common Name (*Scientific Name*)	Habitat	Rationale for Elimination from Detailed Analysis
Threatened and Endangered Species		
Canada Lynx (*Lynx canadensis*)	Higher elevation lodgepole pine and spruce/ fir forests with adequate prey base of snowshoe hares, its primary food.	Project does not occur within an LAU (Lynx Analysis Unit) and no suitable habitat in project area.
Grizzly Bear (*Ursus arctos*)	Habitat generalist. Denning areas isolated and remote from human development.	The species is not known or suspected on the St. Joe Ranger District.
Woodland Caribou (*Rangifer tarandus caribou*)	Above 4,000 ft. in Engelmann spruce/subalpine fir and western red cedar/western hemlock forests.	The species is not known or suspected on the St. Joe Ranger District.
Proposed Species		
North American Wolverine (*Gulo gulo*)	Far-ranging omnivorous habitat generalist.	Small amounts of persistent snow and no suitable maternal denning habitat near activity area.
Sensitive Species		
American Peregrine Falcon (*Falco peregrinus anatum*)	Open habitats near cliffs and mountains. Nesting cliffs near an adequate prey base.	No impacts to suitable nesting habitat, there is no suitable habitat in the project area.
Bald Eagle (*Haliaeetus leucocephalus*)	Normally nest and forage near large bodies of water.	No impacts to nesting, winter roosting or foraging habitat.

Common Name (*Scientific Name*)	Habitat	Rationale for Elimination from Detailed Analysis
Gray Wolf (*Canis lupus*)	Large areas with high prey densities and isolation from human activities. Availability of den and rendezvous sites.	No reduction in prey densities, increase in public motorized access. There is potential for disturbance to a potential den/rendezvous sit which will be addressed through a Design Feature.
Black-backed Woodpecker (*Picoides arcticus*)	The presence of bark-beetle outbreaks and post-fire areas in forested habitats.	No immediate post-fire habitat or areas of extensive insect infestation proposed for treatment.
Black Swift (*Cypseloides niger*)	Builds nest behind or next to waterfalls and wet cliffs.	No impacts to suitable nesting habitat, there is no suitable habitat in the project area.
Coeur d'Alene Salamander (*Plethodon vandykei idahoensis*)	Springs, seeps, spray zones.	Suitable habitat would not be affected by proposed activities.
Common Loon (*Gavia immmer*)	Large, clear lakes below 5,000 ft. in elevation with at least a partially forested shoreline.	No impacts to suitable habitat, there is no suitable habitat in the project area.
Harlequin Duck (*Histrionicus histrionicus*)	Shallow, swift streams in forested areas.	There have been ducks detected downstream from the project area.
Northern Bog Lemming (*Synaptomys borealis*)	Bogs, fens and, wet alpine and sub-alpine meadows.	The species is not known or suspected on the St. Joe Ranger District.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	Caves, mines, and abandoned buildings.	No impacts to suitable roosting habitat, there is no suitable habitat in the project area.
Western Toad (*Bufo boreas*)	Breed in lakes, ponds, streams and persistent water sources.	Inland Native Fish Strategy (INFS) buffers and Best Management Practices (BMPs) reduce risks to toads.
Pygmy Nuthatch (*Sitta pygmaea*)	Ponderosa pine habitat, especially mature and old growth stands.	Almost no capable habitat (117 acres of a 16,757 acre project area)
Flammulated Owl (*Otus flammeolus*)	Mature or old growth ponderosa pine and Douglas-fir forest.	Almost no capable habitat (117 acres of a 16,757 acre project area).
Fringed Myotis (*Myotis thysanodes*)	Caves, mines, and abandoned buildings; large snag habitat in dry-site forest.	No caves, mines, or abandoned buildings in the project area almost no capable habitat.
Focal Species		
Elk Security (*Cervus elaphas*)	Mosaic of habitat types that provide areas for foraging and areas for thermal and security cover.	Project is outside Elk Security areas. There will actually be a beneficial impact to elk security due to road decommissioning.

Affected Environment and Environmental Consequences

Introduction

The distribution and abundance of wildlife is primarily a function of habitat conditions (e.g., vegetation type and successional stage). These conditions reflect inherent fixed attributes (as depicted below in the description of capable habitat) as well as disturbance types and frequencies (e.g., fire, windthrow, landslide, and insect outbreaks). Wildlife species occupy their preferred niche on the landscape and move from place to place as forest structures change and different habitat conditions develop (Clark and Sampson 1995). Consequently, wildlife species have not

necessarily persisted indefinitely in areas where they are found today because of the dynamic and shifting environments in which they live. Given the often-conflicting habitat requirements of many species, a sound strategy for management is to maintain a complex pattern of forest types and age classes across the landscape that encourages biodiversity and emulates the historic patterns.

Ecological disturbances lay the foundation for landscape patterns and strongly influence wildlife populations. Disturbances that arise from natural processes or human actions can alter these landscape patterns and wildlife habitat, directing wildlife abundance and composition. In addition to altering habitat due to direct impacts (timber harvest), humans can alter habitat indirectly by influencing natural disturbance patterns. For example, fire suppression results in changes in vegetation composition and structure and subsequent susceptibility to various natural disturbances.

In the absence of disturbance, vegetation follows a gradual and more predictable sequence of change called succession. As vegetation moves through each stage of succession, the composition of wildlife species shifts accordingly. Wildlife species have distinctive successional strategies. Some species are more suited to the early stages of forest succession where grasses, forbs, and shrubs dominate the site, while others are better suited for the later stages of forest development (e.g., old growth). Other species are habitat generalists and have adapted to a wide array of successional stages.

Organization

The analysis and discussion of existing condition and project effects on various wildlife species are organized as follows:

Habitat Relationships

This section describes the natural history, status, and distribution of wildlife species analyzed in detail, which have been identified as species that could potentially be affected by proposed activities. It also describes the current conditions and relevant habitat components that may or may not be affected by the alternatives. Information presented in this section is based on scientific literature, wildlife databases, professional judgment, recent field surveys, and habitat evaluations.

Methodology

The appropriate methodology and level of analysis needed to determine potential effects are influenced by a number of variables including the presence of species or habitat, the scope and nature of the activities associated with the proposed action and alternatives, and risk factors that could ultimately result in meaningful adverse or favorable effects. The screening process references the following documents and uses a variety of information including scientific literature, resource inventories, and sighting records:

- Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin
- Idaho Panhandle National Forests Land and Resource Management Plan and amendments
- Available Conservation Assessments and Strategies for wildlife species

The “Methodology” subsection for each species describes the process used in isolating individual habitat components that may be limiting on the landscape or at risk from management activities. IPNF personnel conducted site visits of a substantial portion of representative habitat for potentially affected species in the analysis area, with emphasis placed in proposed treatment areas. In some cases, habitat information collected in the field was supplemented by queries of the stand components (FSVEG) and activities (FACTS) databases, or with aerial photograph interpretation. This section also outlines the methodology for assessing the effects of the alternatives on individuals or habitat of the species.

Affected Environment

The resource information provided, especially as it relates to habitat analysis, includes past actions and events that have influenced vegetative changes to what is now part of the existing condition. An important concept in the existing condition descriptions and analysis is the difference between capable habitat and suitable habitat. Capable habitat refers to the inherent potential of a site to produce essential habitat requirements of a species. The vegetative structure and composition on the site (e.g., stand age, cover type, or stand density) may not currently provide the necessary attributes to support a species, but it has the fixed attributes that would enable it to provide those variables under appropriate conditions. Some examples of fixed attributes are slope, aspect, soil, or elevation. Suitable habitat refers to wildlife habitat that currently has both the fixed and variable stand attributes meeting a given species' habitat requirements. Variable attributes change over time and may include stand age, cover type, stand density, tree size, or canopy cover. Suitable habitat may be identified based on its ability to currently provide suitable habitat for a limiting factor such as nesting habitat. Since it can be difficult to determine if currently unoccupied habitat contains all attributes necessary to meet a species’ requirements (some of which may be difficult to measure, are not easily discernible, or are previously undocumented by research), stands that appear to contain the necessary habitat components based on habitat validation surveys are labeled as potentially suitable.

Habitat estimates are limited to NFS lands, as both timber industry and state lands in the area have been logged, roaded and developed, or are expected to be in the future. These lands cannot be relied upon to provide habitat in the future because they are not under FS jurisdiction; so they are not used in calculations.

Direct and Indirect Effects

This section displays and discusses the effects on wildlife species identified as potentially affected by the alternatives. Effects discussions include direct effects (effects caused by the action occurring at the same time and place) and indirect effects (effects caused by the action that are later in time or removed in distance, but still reasonably foreseeable), any of which may have positive or negative consequences. Information presented in this section is based on scientific literature, wildlife databases, professional judgment, field surveys, and habitat evaluations. Only proposed activities that have the potential to impact a given species will be analyzed in this section.

Potential effects to species are limited to NFS lands, as both timber industry and state lands in the area have been logged, roaded and developed, or are expected to be in the future. These lands cannot be relied upon to provide habitat in the future because they are not under FS jurisdiction; so they are not used in calculations.

Cumulative Effects

Cumulative effects discussions include other ongoing and reasonably foreseeable actions, regardless of the source, that overlap the proposed action(s) in time and space and may incrementally add to the effects. As discussed above, the effects of past activities and disturbances have been incorporated into the existing condition, and are discussed in the "Affected Environment" subsection. Those ongoing or reasonably foreseeable activities that may be measurable or consequential at the project scale are discussed in this section.

Conclusion

This section will give a comparison of all the alternatives for the species and synthesize all the sections above and give a determination of the impacts of the project.

Consistency with Forest Plan

All applicable goals, direction, standards, and guidelines from the Forest Plan are addressed in this section.

Threatened and Endangered Species

The Homestead project would have **No Effect** to any threatened or endangered species. Canada lynx, grizzly bear, or woodland caribou are not known or suspected to occur within the Homestead project area. Appendix C of this document discusses why each threatened and endangered species was not analyzed in detail for the Homestead project.

Proposed Species

The wolverine is the only proposed species identified on the IPNF. There is no denning habitat in the project area, which is needed to establish a resident population. There is, however, potential wolverine habitat located in in the eastern side of the project area (approximately 234 acres). Of the 234 acres within the project area boundary, zero acres are located in harvest units (see map in wolverine section and W-005). Per the wolverine programmatic Biological Assessment, since the limiting factor for wolverine is persistent snow, not changes in vegetation or habitat features, impacts from timber harvest and associated activities will not affect suitable habitat (W-006).

Sensitive Species

The Homestead project would have **No Impact** on peregrine falcon, bald eagle, black swift, Coeur d'alene salamander, common loon, flammulated owl, fringed myotis, northern bog lemming, pygmy nuthatch, and Townsend's big-eared bat. Gray wolf, black-backed woodpecker, harlequin duck, and western toad have habitat or are suspected to occur within the Homestead project area but are impacted at an inconsequential level. Appendix C of this document discusses why each sensitive species was not analyzed in detail for the Homestead project.

Sensitive Species

Fisher

Habitat Relationships

Fishers are forest carnivores that occur at low population densities, occurring most commonly in landscapes associated with late-successional forests; especially in riparian areas (Powell and Zielinski 1994). A fisher home range varies between 12,000 and 24,000 acres, with males home

ranges falling in the larger end (Sauder and Rachlow 2014). The project area (16,757 acres) falls within the hypothetical size of a fisher home range

Contrary to what was once thought, evidence from more recent research (within the past 10 to 15 years) in western North America indicates that fisher is not old-growth conifer dependent and their home ranges are characterized by a mosaic of forest types and seral stages, including high proportions of mid to late seral stands (42 percent to 72 percent of a home range) as well as lower proportions of open or non-forested stands (Raley et al. 2012). Based on a synthesis of recent research on fisher in western North America, Raley et al. (2012) contend that when establishing their home ranges, it benefits fisher to include a diversity of forest conditions. This increases their access to a diversity and abundance of prey species that use different forest conditions, while at the same time providing the habitat features the fisher themselves need for reproduction and thermoregulation.

Large-diameter snags and logs are used for denning, resting and foraging; and the structure of habitat (i.e., complex vertical and horizontal structure with larger live trees, snags and logs) is more important to fisher than any particular forest types (Raley et al. 2012). Fisher prefer forests with high canopy closure (greater than 80 percent) and generally avoid areas with less canopy closure (less than 50 percent) (Powell 1982). Forests within or adjacent to riparian areas are particularly important to fishers (Heinemeyer and Jones 1994). In his study in north-central Idaho, Jones (1991) found that during the summer fishers generally preferred grand fir and spruce forests, and avoided dry ponderosa pine and Douglas-fir habitats. However, in winter, fishers also selected stands with relatively high basal areas of Douglas-fir and lodgepole pine.

Affected Environment

Fishers historically occupied much of the forested habitats in the northern United States (Heinemeyer and Jones 1994). Populations declined in the early 20th century, due mainly to over-trapping and poisoning. Habitat loss as a result of human settlement in low-lying areas likely contributed to population declines as well (USFWS 2011b). In the western United States, fishers have remained at low numbers or absent from portions of their former range (Heinemeyer and Jones 1994). Population trend information for fishers in northern Idaho is unavailable, but based on sighting information fishers are currently uncommon. However, the status and distribution of the historic (pre-settlement) fisher population is equally unknown, and populations were likely never as abundant as in the east. The absence of historic population estimates, along with a lack of current numbers or trends, do not allow for a comparison of the impacts of landscape-scale changes on fisher populations (USFWS 2011b).

Changes to forest structure due to natural and human-caused disturbances (such as fire or timber harvesting) can negatively impact habitat for fisher, particularly when they affect late seral mesic forest types and forested riparian areas. Past logging activities throughout the St. Joe River basin, including salvaging of occasional large stems, likely deteriorated fisher habitat by removing forest canopy, snags, and current and future dead and down material.

Most studies have found fishers tolerant of moderate degrees of human activity including roads, although Heinemeyer and Jones (1994) hypothesized that roads may indirectly lead to increased trapper access. Fisher cannot be legally trapped in Idaho, but are occasionally caught in sets intended for other species (such as marten and bobcat).

Much of the Homestead area is in large, interconnected expanses of mature or late successional forest. Currently, about 92 percent (15,462 acres) of the analysis area is comprised of forest stands more than 60 years old (W-007).

Surveys

A fisher was detected near the project area (across Marble Creek) during Forest Service hair snare surveys conducted in 2008 (W-008). During those same surveys there was a hair snare transect set up in what is the project area (Daveggio Creek drainage) but no fisher were detected. Intensive surveys across the forest from 2010-2014 (Lucid et al. 2016) did not detect any fisher presence in the project area. Two hair snare transect surveys were conducted in 2019 but no fisher were detected.

Environmental Consequences - Fisher

Methodology

Fisher habitat was evaluated based on habitat requirements documented in published literature, and discusses possible project effects at multiple spatial scales. Fine scale habitat analysis addresses potential denning/resting sites and the stands that support them. These areas are important because they are thought to be critical for fisher reproduction and survival (Raley et al. 2012). Larger scale analysis (home range or landscape) may be a better predictor of fisher presence, and is more appropriate for assessing effects of forest management (Sauder and Rachlow 2014).

Capable Habitat

The concept of "capable" habitat is used here to identify those stands that could, at some point in time, provide suitable fisher habitat, and included virtually all of the forested stands in the Homestead area. All forested stands are considered capable habitat with the exception of stands at opposite extremes of the environmental gradient ("cold" and "warm-dry") (W-009) and areas with openings (<10% canopy cover) (W-010). Capable habitat also excludes openings. To evaluate the amount of open area in the Homestead area both before and after project implementation (using Sauder and Rachlow's 2014 definition of "open areas" as those with canopy cover less than 10 percent), the analysis employed the Regional VMap database, as this generally provides reliable estimates of canopy cover.

Denning/Resting

Proposed harvest units were assessed based on their ability to provide denning or resting sites for fishers. Areas that encompass capable habitat (from habitat evaluation surveys) and also contains the attributes selected by fishers for denning or resting sites are considered "potentially suitable" denning/resting habitat. This habitat component was defined as:

1. Capable forested stands with canopy closure greater than 40 percent,
2. All forest types except ponderosa pine,
3. Average stem diameter in the primary overstory layer greater than 15 inches d.b.h. (10 inches d.b.h. in lodgepole pine, aspen or birch stands).
4. In addition, stands were only considered potentially suitable denning/resting habitat if they contained:
    a. either large (greater than 15 inches d.b.h.) snags or;
    b. large-diameter down woody debris (preferably both).

Canopy closure of greater than 40 percent is based on Jones' (1991) finding that fishers in his study area preferred stands with canopy cover greater than 60 percent, avoided stands with canopy cover less than or equal to 40 percent, and used stands with 41 to 60 percent canopy cover in proportion to availability when selecting resting sites. The use of 15 inches or greater average diameter in the primary overstory layer is a proxy for what Jones (1991) described as "mature forest" and "old-growth" stands in his study area (size classes that were not avoided by his study animals selecting resting sites). This diameter limit was lowered for lodgepole pine, aspen and birch to acknowledge that older stands of these species generally reach smaller diameters; but the required presence of large snags or down wood eliminates younger, less structurally complex stands as suitable habitat. Jones (1991) found most resting sites to be in the canopies of live trees, but large snags and down logs were preferred as maternal dens.

Landscape/Homerange

Recent research has focused on habitat analysis at larger scales (landscape or individual fisher home ranges) as predictors of fisher occurrence (Raley et al. 2012, Sauder and Rachlow 2014, 2015). Raley et al. (2012) report fisher home ranges containing relatively high proportions of mid- and late-seral forest (42 to 72 percent). Sauder and Rachlow (2014) also focused on forest pattern at the landscape scale, and predicted that an increase in the amount of open area on the landscape from 5 to 10 percent would reduce the relative probability of occupation by fishers by 39 percent. However, they also report that the configuration (sizes and distance between) mature forest patches was the most important habitat variable to predict fisher occurrence.

Raley et al. 2012 define "mid-seral" according to Zielinski et al. 2004 as "early mature, early mature-with predominants, early mature-harvest with predominants, and early mature-harvest types." For the Homestead analysis, mid- to late-seral forest was considered to be any forest stand more than 60 years old. Stands of this age also likely meet the Sauder and Rachlow definition of "mature forest" (i.e., trees of 25-50 meter canopy height) in the project area. The analysis used the timber stand database to estimate the amount and distribution of mature forest in the project area both before and after project implementation under both alternatives. The analysis did not attempt to duplicate the Sauder and Rachlow (2014) proximity index approach, instead merely mapping forest cover pre- and post-implementation to assess project effects on mature forest configuration.

Direct and Indirect Effects to the Action Alternative

Capable Habitat

Approximately 14,421 acres of the 16,757-acre analysis area is considered capable fisher habitat. The action alternative proposes timber harvest on approximately 1,238 acres of capable fisher habitat. Although 1,238 acres are proposed for harvest, the shelterwood treatments (484 acres) would retain at least 10% canopy cover, therefore only 754 acres of treatment would further increase the acres of openings in the project area.

Current openings (<10% canopy cover) in the project area approximately 2% (368 acres) of the project area. The amount of openings in the project area would increase from 2% to 5% but would still fall below the desired opening parameter of having less than 10% of the home range "open" (Sauder and Rachlow 2014). These additional openings would increase habitat diversity which could actually be beneficial to fisher by increasing the diversity and abundance of prey species in the project area (Raley et al. 2012).

Denning/Resting Habitat

The Homestead project would regenerate stands that provide potentially suitable fisher denning/resting habitat, but this represents a relatively small proportion of this habitat in the analysis area. While the mature forest in the Homestead area would also be affected, about 85 percent of the area would remain in a large, interconnected patch of 60+ year old forest following project implementation (PF: W-011).

Habitat surveys on nearly 2,877 acres in the Homestead area identified approximately 1,500 acres of potentially suitable denning/resting habitat in or near proposed activity areas. In addition, there is 5,565 acres of old-growth (W-012) in the project area which contains a lot of habitat elements that fisher prefer for denning/resting/foraging such as large-diameter snags and logs, and the structure of habitat (i.e., complex vertical and horizontal structure with larger live trees, snags and logs) (Raley et al. 2012). Including the old growth, this would bring the amount of suitable fisher habitat in the project area to 7,065 acres (W-013). Timber harvest is proposed on 1,238 acres and of that, 520 acres is in suitable fisher habitat. This reduces the amount of potential suitable fisher habitat in the area from 7,065 acres to 6,545. Geographically, the best fisher habitat in the project area, which includes the majority of the old-growth habitat, is located on the east side of the project area which will remain intact.

To put these effects into context, more than 92 percent of the potentially suitable denning/resting habitat in the vicinity of proposed harvest units would remain unaffected. Potentially suitable denning/resting habitat would persist (outside harvest areas) in the vicinity of units where this habitat component is lost. Habitat evaluation surveys occurred on less than one-quarter of the capable habitat in the Homestead area. Given the relative uniformity of the area in age and stand structure, and the fact that a large amount of old growth occurs on the far side of the project area, it is reasonable to believe that similar amounts of suitable denning or resting habitat remain on the 75 percent of the Homestead area not in proximity to proposed harvest.

Over twenty seven miles of roads are proposed for decommissioning in the project area. Most of the road miles proposed for decommissioning are currently unpassable but the formalization of this process should reduce potential trapper access and attendant risk of trapping-related mortality. Overall, project activities may impact fisher habitat at a localized scale, but they would not substantially affect species population or distribution at larger scales, and would have inconsequential effects relative to natural changes expected to take place over the coming decades.

Landscape/Homerange Analysis

Approximately 1,011 acres of mature (more than 60 years old) forest are within proposed timber harvest units. This would reduce the amount of mature forest in the Homestead area to about 14,451 acres (86 percent). This figure still exceeds the Raley et al. (2012) recommendation for the amount of mature forest in a home range.

While the proposal would create a few large areas of less than 60-year-old forest, the remaining mature forest would still be interconnected. With a few exceptions, the Homestead area would essentially consist of one large “patch” of mature forest its entire length. As a result, the proposed timber harvest would leave a well-connected mature forest pattern recommended for fishers.

Timber harvest also has the potential to increase the amount of open area in the Homestead area, although predicting the actual extent is problematic. Sauder and Rachlow (2014) narrowly define

open areas as having less than 10 percent canopy cover, which is the middle of the range of expected residual canopy cover (5-15 percent) of seedtree units. Post-harvest condition would increase the amount of 10% openings by 754 acres, raising the overall amount of these openings from 2% to 5% of the project area.

Sauder and Rachlow (2014) suggest that managing for less than 5 percent open areas could serve as a target for managers seeking to maximize fisher occupation. It is unclear how this recommendation is to be applied to management activities, since natural openings often comprise more than five percent of landscapes (the majority of the current 2 percent open areas in the Homestead area are natural openings). Additionally, this would seem to be in conflict with the Revised Forest Plan Desired Conditions that call for "a range of patch sizes that have a diversity of successional stages" and an increase in size of forest patches dominated by seedling/sapling and large size classes, and associated decrease in size of patches with small and medium-sized trees (FW-DC-VEG-05).

However, Sauder and Rachlow (2014) seem to imply that a diversity of habitat in home ranges may (at some level) be more important to fishers than amount of open area, stating that "having a variety of habitat patches within a matrix of well-connected mature forest was a forest pattern favored by fishers." This is also supported by the Raley et al. (2012) recommendation for 42 to 72 percent of mid- or late-seral forest (implying up to 48 percent of something else), and Sauder and Rachlow (2015) reporting core use areas containing "moderate" amounts of high canopy cover forest. All of these research articles generally support the supposition that habitat heterogeneity and diversity is important to fishers. The Homestead would increase diversity (in structure and composition) of forest stands while maintaining connectivity of mature forest patches, despite the relatively small increase in open areas.

Other Project Activities

Post-harvest fuels treatments (burning and piling) would have relatively minor effects on fishers. The species is not particularly sensitive to disturbance, and regenerated units are unlikely to be extensively used by fishers following harvest. Both burning and grapple piling would reduce availability of coarse woody debris, but these stands would not be used for denning for a number of years after harvest due to inadequate canopy cover. Additionally, approximately one slash pile per 5 acres would be left in most piled units to provide habitat for snowshoe hares and other small mammals fishers prey upon (see "Design Features" section). Sullivan et al. (2012) report significant increases in diversity and abundance of small mammals associated with woody debris arranged in large piles on harvested sites.

Proposed road storage would make small improvements to fisher habitat by reducing the miles of roads potentially available to trappers during the winter, and subsequently slightly reducing the risk of trapping mortality. Temporary roads and roads reconstructed for project purposes would not be made available for public use, and would be closed following project implementation.

Spraying herbicides to control and prevent noxious weeds could take place along roadsides, on trails, and at other locations in the analysis area. It is unlikely that noxious weed treatments would have any impacts on fisher because they would not cause changes in important fisher habitat components, and the species is not particularly vulnerable to disturbance.

Cumulative Effects

The following past, ongoing and reasonably foreseeable actions were considered in a cumulative effects discussion for fisher:

Public Activities – Personal-use firewood gathering is anticipated to continue along seasonally and yearlong open roads, potentially reducing snags within 200 feet of such roads. Although it is unlikely to disrupt normal fisher use patterns, firewood cutting can deteriorate habitat in these roadside areas by removing large snags that represent future dead and down wood denning opportunities. Various recreation activities are unlikely to impact fishers, with the exception of oversnow motorized vehicle travel that can provide access for trappers. The effects of oversnow motorized vehicle use, as well as trapping itself, are characterized by the analysis of changes in motorized route miles. This proposal would not increase over-snow motorized vehicle use above current levels, and may reduce this use when currently drivable roads are placed into long-term storage. Therefore, the risk of trapping mortality would not increase as a result of this proposal. Other public recreation activities are unlikely to impact fishers.

Fire Suppression – Fire suppression activities are generally good for fisher habitat in the short term (5-10 years), as they protect denning habitat from stand-replacing fire and contribute to understory congestion in dry-site stands that provide cover for small mammals that fishers prey upon. However, this activity can also slow the development of quality late-successional habitat where it does not currently exist by encouraging growth of higher densities of smaller-diameter shade-tolerant species and contributing to higher incidences of insects and disease. This can result in fuel loading that may cause larger, hotter future wildfires. As a result, fire suppression benefits this species in the short term by helping preserve mature forest cover, although the longer-term effect may ultimately be a deterioration of habitat quality and quantity.

Scientific Uncertainty and Opposing Science

The effects of timber harvest on fisher populations over multiple spatial and temporal scales is an interesting question. Research has unequivocally demonstrated that, at the local scale, logging can negatively impact habitat for fisher, particularly when it affects late seral mesic forest types and forested riparian areas (see, for example, Ruggiero et al. 1994). Timber harvest can reduce forest canopy, remove snags, and diminish current and future dead and down material. Although fisher may use previously harvested stands for foraging and denning/resting sites, unharvested stands are preferred for denning.

Even so, while most fisher habitat (both current and historic) in the western United States is under Forest Service management, it has been suggested that timber harvest on National Forest System lands in the Northern Rockies is unlikely to have contributed to fisher population declines in any considerable way. The U.S. Fish and Wildlife Service has noted that fisher populations declined precipitously in the 1920s, but the balance of forested habitat (outside of dry-forest types) in Idaho and Montana showed little or no logging activity before 1940 (USFWS 2011b). This document goes on to state that "Fishers were so rare as to be considered extirpated before large-scale [timber] harvesting occurred" in the region.

Management actions on the IPNF have been criticized for perceived reductions of fisher habitat and failure to properly account for the effects of these reductions (both past and present) on fisher populations (Center for Biological Diversity et al. 2013, Shultz 2011). However, the following information does not support these arguments:

- In a petition to list the Northern Rocky Mountain Range DPS of fisher under the ESA, the Center for Biological Diversity and others (2013) cited timber harvest and forest management as a current threat to fisher survival, pointing out that a total of more than 626 million board feet of timber were removed from seven National forests between 2009 and 2012. While this figure seems high, when placed in context logging actually impacts

relatively small portions of the affected forests. Across the entire Northern Region of the U.S. Forest Service (R1), 12,662 acres of about 223,512,200 acres (0.0056 percent of the forested landscape) were subject to timber harvest in 2012. On the IPNF, timber harvest affected about 1,645 of 2,470,384 forested acres (0.067 percent). For the 10 year period from 2003-2012, total timber harvest was 165,006 acres in R1 (0.074 percent), and 23,329 acres on the IPNF (0.94 percent).[1] More recent reports show that timber harvest has increased somewhat since 2012, but still comprises a fraction of the land base at both scales.

- Additionally, the average annual timber harvest on the IPNF from 2009-2012 (about 23 million board feet) equates to less than 6 percent of the approximately 405 million board feet the forest is estimated to grow each year. At this rate of harvest, it would take the IPNF nearly 17 years to harvest a single year's growth. It is likely that fisher resting/denning habitat is being created on the forest at a much greater rate than it is being lost through timber harvest.
- The IPNF has not conducted timber harvest or other management that removed allocated old growth stands for more than 20 years (and the amount of old growth lost through wildfire or other natural disturbances has been minimal) (USFS 2010), and the 2015 Revised Forest Plan prohibits loss of old growth through management activities. Also, recent timber harvest on the forest has placed an increased emphasis on harvest of small-diameter and late-seral tree species, and has essentially eliminated clearcutting as a harvest method. It is reasonable to assume that, across the larger landscape, fisher is not threatened by habitat modification resulting from timber harvest on the IPNF.
- Schultz (2010) states that "Without any thresholds to provide some context for projects that eliminate small portions of [fisher] habitat, there is no clear basis for asserting there are no significant cumulative effects." However, based on discussion above, localized project effects are essentially being negated at larger spatial and temporal scales, so the case for inconsequential cumulative effects can be made even in the absence of habitat thresholds (if they existed).
- As discussed above, it is unknown if any thresholds for the amount of denning-resting habitat required per home range by individual fishers exist (i.e., how much is enough?). Similarly, while Raley et al. (2012) and Sauder and Rachlow (2014) provide suggestions for individual home ranges, the larger question remains unanswered: how many such home ranges are required for the species to persist? Based on historic estimates ("HRV" – see USFS 2013b), it is highly unlikely that the entire landscape met the Sauder and Rachlow (2014) "5 percent opening" condition at any time, yet fisher were present prior to western settlement. Apparently some (currently unknown) proportion of the landscape is required in acceptable home ranges to maintain populations. While the validity of a Northern Region-sponsored viability analysis (Samson 2006a, 2006b) has repeatedly been questioned (see Schultz 2010), no other scientifically sound, quantitative minimum viable population determinations for the various species studied – independent or otherwise – has been produced that would supplant this assessment. The analysis provides credible evidence that viability is being maintained in the Northern Region (see "Conclusion" below).

Regarding fisher population trends, the U.S. Fish and Wildlife Service (2011b) stresses that historic population estimates and current estimates and trends are generally lacking in the

region, and attempting to perform population estimates on a secretive, solitary, and low-density carnivore at the project (or even Forest) level would be of limited value. In fact, even the comprehensive sampling undertaken by Lucid et al. (2016) represents but a piece of the larger picture (essentially a snapshot in time that could provide a baseline for long-term monitoring).

Conclusion

The Homestead project would regenerate up to 520 acres in stands that provide potentially suitable fisher denning/resting habitat (all seedtree harvest). This represents about 17 percent of this habitat in stands that received field evaluation of habitat, which in turn are only about 20 percent of the analysis area. It is reasonable to assume that the remaining 75 percent of the area consists of similar quantities of this habitat, and that the effects of this change would be of minor consequence.

The action alternative would also harvest approximately 1,238 acres of mature (more than 60 years old) forest in the Homestead area, but about 86 percent of the area would remain in a large, interconnected patch of 60+ year old forest following project implementation. The project would also increase the open areas of the hypothetical fisher homeranges in the Homestead area from 2% to 5%. This would also increase the diversity of habitats within these home ranges, consistent with research that calls for heterogeneity of fisher habitat.

Other project activities (precommercial thinning, road reconstruction and storage, noxious weed treatments, construction of a fuel break, and various recreational developments) would have minor effects to fishers since they would have small (if any) effects to important habitat components and the species is not particularly sensitive to human disturbance. Road storage would reduce potential trapper access and attendant risk of trapping-related mortality.

While fishers are not old growth obligates, they associate with late-seral forest characteristics (Sauder and Rachlow 2015). Large-diameter snags are also used almost exclusively for maternal densites. Analysis of forest inventory and analysis data reveals an average of 1.4 snags per acre greater than 20 inches d.b.h. across the Idaho Panhandle National Forests. Also, there is currently an estimated 11.8 percent of forested lands allocated as old growth on the Idaho Panhandle National Forests. Based on these estimates, old growth and large snag presence is being maintained on the Forests.

Despite a general direction on the Idaho Panhandle National Forests to restore long-lived early seral species, there has also been an effort to preserve old-growth stands, allow natural succession in riparian areas (potentially suitable habitat and important travel corridors), and preserve and recruit large woody debris forest wide. Riparian areas would remain intact through implementation of the Inland Native Fish Strategy and exclusion of activities within riparian habitat conservation areas (see Hydrology Report), and no reductions in allocated old growth would result from this action. While management actions may impact fisher habitat at a localized scale, this would have inconsequential effects relative to natural changes expected to take place over the coming decades. Instead, wildfire, insects/disease, in-growth, and stand succession will largely determine the amount and pattern of fisher habitat on the Forest in the future (USDA Forest Service 2013b).

Bush and Lundberg (2008) estimated that the Idaho Panhandle National Forests contains approximately 520,400 acres (2,106 km^2) of fisher summer habitat and approximately 1,193,760 acres (4,831 km^2) of fisher winter habitat. Samson (2006b), citing Smallwood (1999), asserts that the threshold habitat level to maintain a viable fisher population is about 100,077 acres (405

km^2), or about one-fifth of the available habitat on the Forests. Given this information, the small change to fisher habitat under alternatives 2 and 3 is unlikely to result in a loss of viability of this species. As a result, adequate habitat to maintain viable fisher populations would remain on the Idaho Panhandle National Forests after project implementation. The U.S. Fish and Wildlife Service (2011b) determined that "the best commercial and scientific information available does not indicate that current or future forest management practices and timber harvest threaten the fisher now, or in the foreseeable future."

Consequently, the action alternative, in conjunction with the past, present and reasonably foreseeable actions ***may impact*** fisher ***or their habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species.***

Consistency with the Forest Plan

There are no Revised Forest Plan standards or guidelines specific to fisher. Instead, it is indirectly addressed in the Revised Plan through desired condition FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-03 and FW-DC-VEG-11 (improve habitat by restoring species structure and composition to more closely reflect HRV); desired condition FW-DC-VEG-07 and guideline FW-GDL-VEG-04 (snag presence); and desired condition FW-DC-WL-12 through 14 (maintenance of old growth, snags and down wood). Additionally, fisher would likely benefit from the Motorized Access Management Direction, which limits motorized access in the Boulder BMU, and subsequently reduces the risk of trapping mortality for this species. All action alternatives are consistent with Forest Plan direction, although alternative 1 does little to restore habitat or encourage development of large-diameter snags.

Management Indicator Species – Focal Species

Management Indicator Species (MIS) were identified in the Forest Plan Revision process and were proposed because they represented an issue or concern. On June 23, 2016, the IPNF administratively changed the monitoring under the Plan to comply with the 2012 Planning Rule. At that time, MIS were removed and the landbird assemblage (olive-sided flycatcher, dusky flycatcher, Hammond's flycatcher, chipping sparrow and hairy woodpecker) were added as Focal Species to monitor integrity of terrestrial vegetation structure and function.

The focal species concept uses the coarse-filter approach for providing diversity of plant and animal communities and the persistence of native species in the planning area. Therefore, it is inappropriate to analyze effects to focal species at the project level. Instead, focal species are used to monitor effects of the Plan itself, and will be discussed in biannual monitoring evaluation reports. The landbird assemblage will be monitored at the Forest-level scale by the ongoing effort of the Integrated Monitoring using Bird Conservation Regions (IMBCR).

Elk Security (Rocky Mountain Elk)

Under the Forest Plan, **FW-OBJ-WL-02** states that over the life of the Plan, the Forest will increase by 3, the number of high or medium priority elk management units that provide >30% elk security. This EMU is a low priority EMU under the Forest Plan and will not help the IPNF meet this objective.

FW-GDL-WL-13 states that management activities in elk management units should maintain existing levels of elk security. Where possible, management activities in high and medium priority elk management units should improve elk security.

Under the action alternative elk security would be improved in this low priority EMU (Appendix D-Map 1.

Statement of Findings

Based on the analysis in this document, I conclude that the Homestead Project would have no impact on the following sensitive species: bald eagle, black swift, Coeur d'Alene salamander, common loon, harlequin duck, Northern bog lemming, peregrine falcon, flammulated owl, fringed myotis, pygmy nuthatch, or Townsend's big-eared bat. This project may impact individuals or habitat for black-backed woodpecker, fisher, gray wolf, and western toad, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species. Determinations for Federally Listed Threatened and Endangered Species and Species Proposed for Listing will be made under a separate Biological Assessment once a finalized action is decided upon. Preliminary analysis completed in this wildlife report indicates the project would have no effect on Canada lynx or Canada lynx critical habitat; grizzly bear, woodland caribou, and is not likely to jeopardize the continued existence of the North American wolverine.

Additionally, the project will lead to an increase in elk security in this Elk Management Unit. There would be no effect to other federally listed terrestrial wildlife species or critical habitat

Prepared by: __/s/ *Mark Bellis*_____ Date:_10/18/2019_____

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Appendix A: Sensitive Species Biological Evaluation Summary Table

The rationale for the conclusion of effects is contained in the Wildlife Report.

Table A- 1. Sensitive species biological evaluation summary of conclusion of impacts, Homestead Project.

Species	Alternative A	Alternative B
American Peregrine Falcon	NI	NI
Bald Eagle	NI	NI
Black-backed Woodpecker	NI	MIIH
Black Swift	NI	NI
Coeur d'Alene Salamander	NI	NI
Common Loon	NI	NI
Fisher	NI	MIIH
Flammulated Owl	NI	NI
Fringed Myotis	NI	NI
Gray Wolf	NI	MIIH
Harlequin Duck	NI	MIIH
Northern Bog Lemming	NI	NI
Pygmy Nuthatch	NI	NI
Townsend's Big-eared Bat	NI	NI
Western Toad	NI	MIIH

NI = No impact

MIIH = May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species

WIFV = Will impact individuals or habitat with a consequence that the action may contribute to a trend towards federal listing or cause a loss of viability to the population or species (considered a trigger for a significant action under NEPA)

BI = Beneficial impact

Conditions: Include any actions or activities that are necessary to maintain the determination of effects.

Recommendations: Include any activities or opportunities that are optional.

Conditions: None.

Recommendations: The district biologist should be notified if any sensitive species are observed during project activity.

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Appendix B: Project Design Features

Measures Related to Wildlife

Threatened, Endangered, Proposed, and Sensitive Wildlife Species Management

- Contract provisions for the protection of Threatened, Endangered, Proposed, and Sensitive (TEPS) species and settlement for environmental cancellation would be included. If TEPS species and/or significant habitat are discovered before or during project implementation the Sale Administrator and the district wildlife biologist would be notified so that if needed, measures could be taken to avoid impacts and meet Forest Plan Standards and Guidelines. Measures could include altering or dropping proposed units, modifying the proposed activity, or implementing buffers.

- The district biologist should be notified if any TEPS species are observed during project activity.

Gray Wolf

- Any active gray wolf den or rendezvous sites identified in or adjacent to proposed activity areas will be spatially and/or temporally buffered as appropriate. No project activities (excluding maintenance and hauling on year-round open road systems) will be allowed within one (1) mile of occupied sites, from April 1 through June 30 for den sites, and from July 1 through August 15 for rendezvous sites. Upon review by the Wildlife Biologist, these distances could potentially decrease based on topographical characteristics at each site.

Western Toad

- All fish-bearing streams would be buffered by 300 feet on each side. Perennial streams and wetlands larger than one acre in size are buffered from ground disturbing activity by at least 150 feet. Smaller springs, seeps, and wetlands would be buffered by at least 100 feet if any are identified near or within harvest units.

Goshawk/Raptors

- **Nests:** A no-activity area of 40 acres would be placed around any newly discovered goshawk nest or any nest that has been active in the past five years. If the nest tree is not roughly centered within the 40-acre no activity area, an additional no activity distance of at least 745 feet (the radius of a 40-acre circle) may be implemented between the nest tree and harvest units to reduce impacts to habitat around the nest site from project activities. The District Wildlife Biologist would determine if this additional no activity distance would be implemented based on factors such as topography, the location of the nest tree within the 40-acre nest area, and the distance of the nest tree from private ownership and/or existing roads.

- **Post-Fledging Areas:** Project activities would be suspended within the post-fledging areas from April 15 to August 15 to promote nesting success and provide forage opportunities for adults and fledgling goshawks during the fledgling dependency period. The units and road activities potentially affected by this design feature are subject to change year to year based on the location of the active nest during the year the activities are to occur. Activity restrictions may be removed after June 30 if the District Wildlife Biologist determines that a particular nest site is inactive or unsuccessful.

- Maintenance of landscape-level connectivity and minimization of fragmentation was incorporated into the design of all alternatives with timber harvest. Travel cover was identified and considered in terms of connectivity. Site-specific design features for units with proposed vegetation removal in designated travel corridors are found in Table E-2.

Big Game

- The proposed road storage may require obliteration for a distance of 300 feet, a sight-distance, or whatever distance is effective to eliminate motorized access. The amount and type of obliteration required would be the minimum needed to effectively prevent motorized vehicle use. This would vary depending on the slope and vegetation present. A guardrail barricade may be used if it can be placed to effectively prevent motorized access.

- Existing gates would remain in place. Temporary gates would be installed on any road to be used that is not behind a gate and is currently not drivable. During timber hauling, the gate would be closed and locked at the end of each day. For other operations, gates would be closed and locked after the passage of each vehicle.

Cavity Nesting Species

Recommendations for snag numbers and snag recruitment levels would be based on Forest Plan (2015) guideline **FW-GDL-VEG-04** and listed in table B-1.

Table B- 1. Recommended Snag and Snag Recruitment Levels to retain (where they exist) after Vegetation Management Activities (including Post-harvest Activities), by Harvest Type (USFS 2015)

Dominance Group	Biophysical Setting	Snags > 15"+ DBH	Live Trees > 15.0" DBH
Ranges per Acre where Treatments Result in a Seed/Sap Size Class (Regeneration Harvest)			
All except lodgepole pine	**Warm/Dry**	2.0 – 4.0	0.5 – 3.0
	Warm/ Moist	4.5 – 6.5	1.0 – 5.5
	Subalpine	3.0 – 5.0	1.0 – 3.5
Lodgepole pine	**All**	1.0 – 2.5	0.5 – 3.0
Ranges per Acre where Treatments Result in a Small or Medium Size Class (e.g., Commercial Thin)			
All except lodgepole pine	**Warm/Dry**	2.0 – 5.0	20.5 – 32.5
	Warm/Moist	4.0 – 6.5	26.0 – 34.0
	Subalpine	3.0 – 5.0	20.0 – 25.5
Lodgepole pine	**All**	1.0 – 3.5	11.0 – 19.0
Ranges per Acre for Treatments in the Large Size Class (e.g., Restoration)			
All except lodgepole pine	**Warm/Dry**	2.5 – 6.0	19.0 – 32.5
	Warm/Moist	6.0 – 12.5	32.5 – 47.0

Dominance Group	Biophysical Setting	Snags > 15"+ DBH	Live Trees > 15.0" DBH
	Subalpine	4.5 –11.5	23.0 – 45.0

- Snag Guidelines under **FW-GDL-VEG-05 & 06**
    - Group snags where possible;
    - Retain snags far enough away from roads or other areas open to public access to reduce the potential for removal (generally more than 150 feet);
    - Emphasize retention of the largest snags and live trees as well as those species that tend to be the most persistent, such as ponderosa pine, larch, and cedar;
    - Favor snags or live trees with existing cavities or evidence of use by woodpeckers or other wildlife.
    - During vegetation management activities (e.g., timber harvest), and in the event that retained snags (or live trees being retained for future snags) fall over or are felled (for safety concerns), they should be left on site to provide coarse woody debris.

Small Mammal Habitat

- In harvest units where slash piles are created, one pile per 5 acres would be left unburned to supply potential forest carnivore rest sites, provide cover for small animals (prey habitat), and serve as potential den sites (IDFG 1995). Piles left should be those closest to standing timber, such as the unit edge or a large cluster of leave trees.

Appendix C: Species Not Analyzed in Detail

Threatened and Endangered Species

Canada Lynx

Rationale for No Further Analysis

Habitat analysis for lynx is based on the Northern Rockies Lynx Management Direction (NRLMD), (USFS 2007). Objectives, standards, and guidelines for the maintenance of lynx habitat and populations apply only to lynx habitat within Lynx Analysis Units (LAUs). Lynx Analysis Units were re-mapped in 2008 and documentation of that process can be found in project file (WL10). The Homestead project area is not within an LAU due to the low amounts of suitable habitat on the western half of the St. Joe Ranger District. The nearest LAU is about 15 miles away from the project area (WL11). There is no lynx critical habitat identified on the St. Joe Ranger District (USFWS 2009). The species is not known or suspected in the project area. Based on the lack of suitable habitat and occurrence there would be **no effect** on lynx habitat or the species and would have no effect on lynx critical habitat. No further analysis and discussion is warranted.

Grizzly Bear

Rationale for No Further Analysis

Although based on current knowledge, the potential for grizzly bear occurrence on the St. Joe Ranger District and in the project area cannot be totally dismissed, there is nothing to suggest any occurrence other than the possibility of transient individuals; with even the potential for that considered occasional. No grizzlies were detected via DNA or by cameras at 91 sites in the Bitterroots during the surveys in 2008-09 (Servheen and Shoemaker 2010). There is no known grizzly bear population occupying the St. Joe Ranger District, and the U.S. Fish and Wildlife Service has determined that a resident population of grizzly bears does not exist in the Bitterroot Ecosystem at this time (USFWS 2000). There has been occasional anecdotal reports of grizzly bears moving through the district but no evidence of an established population. There was a report from IDFG of a grizzly bear den present on the district in 2017 (W-014) but it is unsure whether the bear overwintered in the den and whether cubs were present. Currently, the St. Joe Ranger District is not within any Bear Management Unit (BMU) and no grizzlies have been noted within or near the project area therefore the project would have **no effect** on the grizzly bear.

Woodland Caribou

Rationale for No Further Analysis

The recovery area for the population is in the Selkirk Mountains of northern Idaho, northeastern Washington, and southern British Columbia, Canada. This St. Joe Ranger District is not within the Southern Selkirk Mountains Caribou Recovery Area, and there has been no caribou occupation of the St. Joe District for well over 100 years (Evan 1960). The St. Joe Ranger District also does not occur within identified critical habitat for woodland caribou (USFWS 2012). Consequently, any project that occurs on the St. Joe Ranger District would have no effect on woodland caribou and would have **no effect** on woodland caribou critical habitat.

Proposed Species

North American Wolverine

Habitat Relationships

Wolverines are a low density, wide-ranging species occurring over a wide variety of alpine, boreal and arctic habitats. They are primarily scavengers but will also hunt small animals and birds, and eat fruits, berries, and insects (Hornocker and Hash 1981). The southern portion of the species' range extends into high-elevation portions of Washington, Idaho, Montana, Wyoming, California, and Colorado. While Hornocker and Hash (1981) reported that wolverines tended to use lower elevations in the winter and higher elevations in summer, more recent research (Copeland et al. 2010) states that in montane habitats at southerly latitudes, wolverines remain at high elevations throughout the year. Instead, the presence of persistent spring snow cover (i.e., snow cover from April 24 through May 15) has been determined to define wolverine habitat year-round (Aubry et al. 2007). A review of wolverine research in nine radiotelemetry study areas revealed that approximately 95% of summer locations and 86% of winter locations fell within areas that had persistent spring snow cover at least one of seven years (Copeland et al. 2010).

Affected Environment

Current wolverine populations and trends in the contiguous United States are unknown. The scarcity of information is largely due to the difficulty and expense in studying an animal that is solitary and secretive and found mostly in remote areas at low densities. U.S. Fish and Wildlife Service estimates that approximately 250 to 300 individuals occupy this area, with the bulk occurring in the Northern Rockies (USFWS 2013).

In 2013, the U.S. Fish and Wildlife Service proposed listing the Northern Rockies distinct population segment of North American wolverine under the Endangered Species Act (USFWS 2013). However, based on their review of the best available scientific and commercial information, they determined that wolverine appear to be little affected by habitat modifications and changes to the vegetative characteristics derived from land management activities such as timber harvest and prescribed fire. Furthermore, the proposed rule determined that the types of forest roads associated with wolverine habitat are unlikely to affect wolverine movement. Consequently, it was determined that these types of land management activities would not significantly affect the conservation of the United States population of wolverine (USFW 2013). On August 13, 2014, the USFWS withdrew its proposal to list the wolverine, finding that current and future factors affecting wolverine were, "not of sufficient imminence, intensity or magnitude to indicate that the wolverine is in danger of extinction (endangered), or likely to become endangered within the foreseeable future (threatened)" (USFWS 2014).

Approximately 2,521 acres of the Homestead Project area is modeled to have persistent spring snow cover (i.e., at least one of seven years). More importantly, there is only 583 acres of potential denning habitat (i.e., persistent snow cover for at least five of seven years) within the project area (W-005) and none of it will be affected by the project area.

Rationale for No Further Analysis

The Homestead project is located on a portion of National Forest System lands characterized by open roads, and past timber harvest. While these areas provide foraging opportunities for wolverine, they do not represent the secure habitat that wolverine seem to prefer. Foraging habitat

does not appear to be limiting to wolverines on the St. Joe Ranger District, currently or in the foreseeable future.

There are no confirmed observations of wolverines near proposed activity areas. Given their wide-ranging nature, it is not unreasonable to assume wolverines may be present, although their presence is likely to be transitory. However, any disturbance to wolverine as a result of project activities would be temporary, and ample displacement habitat is available in adjacent areas. The habitat changes as a result of the Homestead Project would have minor effects on this species. The effects to habitat would be minimal relative to the scale of a wolverine home range (approximately 34,840 to 122,564 acres (141 to 496 km^2) in Glacier National Park, MT (USFWS 2013). As a result, potential impacts to wolverine or their habitat would be discountable (small in scale) and would not be considered to be a threat to the persistence of the species. Consequently, the action alternatives, in conjunction with past, present, and reasonably foreseeable actions**, may impact individuals or their habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species**. The effects analysis of this project is covered by the programmatic Biological Assessment conducted by the Forest Service (W-006) and associated concurrence by USFWS (W-001).

Sensitive Species

American Peregrine Falcon

Rationale for No Further Analysis

There are no known historic eyries in the project area or the St. Joe Ranger District. There is no cliff or cliff-like habitat present in the project area. The species is not known or suspected to occur in the area. Given the lack of nesting habitat in the Homestead project area; project activities would have **no impact** on peregrine falcons or potential habitat under any alternative. No further analysis and discussion is warranted.

Bald Eagle

Rationale for No Further Analysis

There are no known bald eagle nests or winter roosts in the vicinity of the project area. Eagle nests are known to occur on the St. Joe River which has been verified through annual eagle surveys conducted by FS personnel. Surveys reveal that the nearest known active bald eagle nest to the project is at near the Huckleberry campground, approximately 22 miles from the project area. There would be no project activities within the distances recommended by the National Bald Eagle Management Guidelines for protection of bald eagle nests or roosting areas, and no impacts to suitable foraging areas.

Bald eagles are unlikely to make more than incidental use of any creeks within the project area. Given the lack of nesting habitat or winter roost habitat in the Homestead project area, project activities would have **no impact** on bald eagles or potential habitat under any alternative. No further analysis or discussion is warranted.

Gray Wolf

Habitat Relationships

Wolves are highly social animals requiring large areas to roam and feed. They exhibit no particular habitat preference relative to vegetative structure and composition. The gray wolf is a habitat generalist that requires an abundant prey base for survival. Prey species in the Northern Rockies include white-tailed and mule deer, moose, elk, woodland caribou, bighorn sheep, mountain goat, beaver, and snowshoe hare; with small mammals, birds, and large invertebrates sometimes being taken. Opportunistic feeders, they will also prey on carrion when it is available. High prey densities, particularly big game, and isolation from human disturbance characterize quality wolf habitat. Other important habitat features for wolves include den and rendezvous sites (Hansen 1986). Habitat can include forests of all types, rangelands, brushlands, steppes, agricultural lands, wetlands, deserts, tundra, and barren ground areas.

Historically wolves were distributed throughout most of Idaho in unknown populations. Wolf packs of four to ten animals appear to have ranged widely in the mountains of northern and central Idaho. A decline of native ungulates, control programs designed to eradicate wolves, and conflicts with livestock and humans caused the decline of wolf populations and led to the absence of a breeding population in Idaho (Hansen 1986).

An inadequate prey density and a high level of human disturbance are the main factors that appear to limit wolf population and distribution (Mech 1995). Wolf packs appear to be sensitive to human disturbance near active den sites and, depending on the disturbance, may abandon the site (Ballard et al. 1987). They are also sensitive to human disturbance at rendezvous sites and are most sensitive around the early summer sites (USFWS 1987). Limiting wolf mortality associated with human/wolf interactions, limiting human disturbance around den and rendezvous sites, and managing for an abundant prey base are keys in the recovery of wolf populations. The density and distribution of open roads provides a good measure for determining the level of risk to wolves from human-caused mortality and disturbance to den and rendezvous sites.

Affected Environment

The northern Rocky Mountain wolf, a subspecies of the gray wolf, was listed as endangered in 1973. However, based on enforcement problems and a trend to recognize fewer subspecies of wolves, the full species was listed as endangered throughout the entire lower 48 states, except Minnesota, in 1978 (USFWS 1987). In the past, substantial declines in numbers of wolves resulted from control efforts to reduce livestock and big game depredations, and the Rocky Mountain wolf was essentially eradicated from its range by the 1940s. However, wolf reintroductions in Yellowstone National Park and central Idaho in the 1990s, along with protections afforded by the Endangered Species Act, produced a rapid increase in gray wolf population numbers in the Northern Rockies. By 2002, gray wolves had exceeded recovery goals in the Northern Rockies, and have been delisted since May 5, 2011 (USFWS 2011a).

Wolves are known to occur across the St Joe Ranger District (IDFG 2015). Since wolves were re-introduced in Central Idaho in 1995 and 1996, numbers have increased in Idaho and on the IPNF. By 2015 there were an estimated 786 wolves in Idaho, with up to seven known wolf packs that included at least a portion of the District within their territories (IDFG 2015). The proposed harvest units are in a known wolf pack territory, the Hang Glider pack, which has only 2 wolves but are not considered a breeding pair (IDFG 2015).

Due to their dependence on elk as a preferred prey species, the elk management unit (EMU) encompassing the proposed project area is used as the cumulative effects area for wolves. The proposed project, which includes prescribed burning to enhance ungulate foraging habitat, should contribute to a healthy prey base for wolves in the foreseeable future. The quality and quantity of

forage habitat for elk and deer in the area are expected to increase as the treated stands progress through early seral stages (i.e., grass, forbs, shrubs).

The construction, reconstruction, and use of roads for this project could disturb wolves and cause displacement; however, these roads would be closed post-activities and there would be no change to the open motorized road system. Habitat conditions for the wolf prey base are expected to improve with the increase in forage and maintenance of the existing security cover in the analysis area.

Rationale for No Further Analysis

The proposed project would not impact any known denning or rendezvous site or interrupt any linkages or connections between habitats. If it was discovered that an active gray wolf den or rendezvous sites was identified in or adjacent to proposed activity areas they will be spatially and/or temporally buffered as appropriate. No project activities (excluding maintenance and hauling on year-round open road systems) will be allowed within one (1) mile of occupied sites, from April 1 through June 30 for den sites, and from July 1 through August 15 for rendezvous sites. Upon review by the Wildlife Biologist, these distances could potentially decrease based on topographical characteristics at each site.

There would be a slight decrease in the open motorized road system after project completion. The analysis of potential impacts on elk has determined that there would be no discernable effects on prey availability. The proposed alternatives would have no adverse impact on gray wolf habitat nor affect their occurrence at a landscape level. Based on the nature of wolf occurrence and their distribution across the district, their ability to readily disperse long distances, the type of habitat affected, the scope of this action, and the implementation of design features this project **may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species**. There are currently hunting and a trapping seasons for gray wolves on the St. Joe Ranger District, and by having populations that support harvest levels viability is not a concern for this species.

Blacked-backed Woodpecker

Species Overview

Black-backed woodpeckers (BBWP) are specialists in forests that have insect outbreaks from either wildfire or other reasons. Black-backed woodpeckers are known to use three types of forested habitat: 1) post fire areas that have burned within 1 to 6 years, 2) areas with extensive bark beetle outbreaks causing widespread tree mortality, and 3) a natural range of smaller disturbances scattered throughout the forest such as windthrow, ice damage, or other occurrences that produce small patches of dead trees. These habitat conditions all provide habitat for the black-backed woodpecker's primary food source, woodborer beetles, and larvae (Bonn et al. 2007). They nest primarily in dead trees, with an average 16" d.b.h. (Saab et al. 2002), though nests are also found in live trees within burned and beetle infested stands (Dixon and Saab 2000). Historically on the IPNF, mixed severity and stand-replacing fires produced new habitat annually in greater amounts than is presently produced under a fire suppression strategy (Zack and Morgan 1994).

Suitable black-backed woodpecker habitat now exists within the Homestead project area as a result of insect infestations and other tree mortality, since there are no recently burned areas of more than a few acres. The Homestead project area may be experiencing normal to elevated conditions of insect and disease infestation because the species composition of the trees in the

stands have shifted away from species that are generally less susceptible to insects and diseases and towards species that are more susceptible. Pockets of insect infestations (particularly mountain bark beetle) can be found throughout the St Joe Ranger District.

Rationale for No Further Analysis

The action alternatives would not affect any recent post-fire habitat but would affect areas of insect and disease infestation. Tree mortality is expected to persist in untreated portions of the analysis area, allowing BBWP to maintain populations at low endemic levels. As a result, BBWP populations would likely maintain their current densities and their current distribution would be sustained. Cumulative effects from other activities in the Homestead area, in conjunction with the potential impacts from this project, may impact BBWP to a minor degree. However, the combined effects would be of an inconsequential nature, and would not increase the risk to the species. The retention of snags to meet the snag guidelines and the protection of existing snags within the uncut Riparian Habitat Conservation Areas (RHCA), along with the potential of snag creation from prescribed fire, would reduce the impact of the project on potential BBWP habitat.

On a broader scale, 12,000 acres of forest burned on the St. Joe District in 2015, creating a high potential for BBWP in areas where severe fires occurred (Hutto 2008). Cumulatively, over the ten-year period from 2003 to 2012, timber harvest in Northern Region averaged 1,650 acres per year. During a similar ten-year period (2004 to 2013), an average of 201,643 acres per year were affected by wildfire in the Region, reflecting the fact that BBWP habitat is being created faster than what is being removed.

For the above reasons this **project may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species**. No further analysis or discussion is warranted.

Black Swift

Species Overview

In the western U.S. black swifts nest on small ledges of cliffs, caves, or other vertical surfaces near or behind dripping water sources, waterfalls, or turbulent spray zones (Wiggins 2004). There are six features strongly associated with black swift nest sites: 1) falling or dripping water, 2) high relief, 3) inaccessibility to ground predators, 4) unobstructed flyways in the immediate nest vicinity, 5) shade during a major portion of the day, and 6) the presence of suitable nest niches (Wiggins 2004). Black swifts feed on insects and forage over forests and in open areas. Risks to the species include: 1) decreases in water flow, 2) recreational use of nest sites (e.g. rock climbers and hikers), and 3) use of pesticides near nesting areas.

Rationale for No Further Analysis

There are no waterfalls in the project area that may serve as suitable habitat. The species is not known or suspected in the project area; therefore, project activities would have **no impact** on black swifts or potential nesting habitat under any alternative. No further analysis or discussion is warranted.

Coeur d'Alene Salamander

Species Overview

Coeur d'Alene salamanders are restricted to cool damp aquatic habitats that have thermal and hydric stability. The species has been found in three major types of habitats in northern Idaho: 1) spring seeps, 2) waterfall spray zones, and 3) along stream edges between 1,800 to 3,500 feet elevation. Known populations occur in association with sharply fractured rock formations in conjunction with both persistent and intermittent surface water, usually in association with coniferous forests. These conditions are critical for Coeur d'Alene salamanders since they respire through the skin, and lose water to the environment through evaporation (Cassirer et al. 1994). Foraging activities are generally restricted to moist spray zones, seeps, or streamside rocks and vegetation, although they may venture beyond these areas during rainy periods. Eggs are presumably laid in underground rock crevices (Groves et al. 1996), and salamanders are usually above ground at night in moist weather in the spring and fall (Nussbaum et al. 1983).

Rationale for No Further Analysis

There are no known salamander sites in the Homestead project area. Due to the geology of the area, the fractured rock seepage habitat favored by Coeur d'Alene salamanders on the St. Joe Ranger District is very rare and no potential areas of suitable habitat were located during field visits.

The requirement for riparian habitat conservation area (RHCA) buffer zones means that any potentially suitable habitat associated with stream edges and waterfall spray zones would not be affected by timber harvest in any alternative. These riparian buffers would also protect any potential fractured rock seep habitat along the lengths of roads adjacent to the creeks.

This project does not have any activity that would directly or indirectly affect Coeur d'Alene salamander habitat. There would be no change to conditions for Coeur d'Alene salamanders with any alternative. Based on the above reasons as well as the lack of suitable habitat, the alternatives would have **no impact** on Coeur d'Alene salamanders, and no further analysis or discussion is warranted.

Common Loon

Species Overview

Common loons generally nest in clear, fish-bearing lakes surrounded by forest, with rocky shorelines, bays, islands, and floating bogs (McIntyre and Barr 1997). Loons are totally dependent on water because their legs are far towards the rear of their bodies, making it difficult for them to walk on land. For nesting, they need lakes with emergent shoreline vegetation and secluded areas for nesting and brood rearing. They construct ground nests on islands, floating bog islets, or other protected areas. Because of their need for large expanses of water for takeoff and landing, loons generally occur in lakes of at least 10 acres in size. They appear to avoid lakes over 5,000 feet in elevation, as these lakes are generally ice covered until late in the breeding season (Tischler 2011).

Rationale for No Further Analysis

There are no lakes in the wildlife analysis area or the St. Joe Ranger District that may serve as potential habitat. The species is not known or suspected in the project area. Based on the lack of

suitable habitat and occurrence there would be **no impact** on habitat or the species. No further analysis and discussion is warranted.

Harlequin Duck

Species Overview

Harlequin ducks are sea ducks that winter in coastal areas and migrate inland to breed along swiftly flowing mountain streams. They feed primarily on stream insect larvae in breeding areas. Some of the habitat conditions found on streams used by harlequin ducks are: clear water, riffle habitat, gravel to boulder substrate, woody debris, loafing rocks, shrub/tree vegetated streambanks, and a relative lack of human disturbance or accessibility. Harlequin ducks are primarily affected by disturbance within two "sight distances", or about 100 meters (depending on the density of streamside vegetation), of a nesting stream (Cassirer et al. 1996).

Rationale for No Further Analysis

In northern Idaho, breeding streams are usually associated with mature to old growth western red cedar/western hemlock or spruce/fir forest stands (Cassirer and Groves 1991). Nesting habitat includes very low gradient stream sections with braided channels, intact riparian areas with dense streamside shrub growth, and rich aquatic insect populations (Cassirer and Groves 1991). Turbulent stream sections are used for security and feeding. There have been harlequin duck observations in Marble Creek but at least 7 miles away from the project area. The creeks located within the project area are likely too small to provide suitable harlequin duck habitat. With no potential habitat for harlequin ducks in the project area, the Homestead Project would have **no impact** on harlequin ducks or their habitat, and no further analysis and discussion is necessary.

Northern Bog Lemming

Species Overview

Northern bog lemmings are found in sphagnum bogs, wet meadows, moist mixed and coniferous forests, alpine sedge meadows, krummholz spruce-fir forests with dense herbaceous and mossy understory, and mossy streamsides. They can be found in small colonies with population densities that may reach 36 individuals per acre (Streubel 2000). Nearly all of the documented occurrences of northern bog lemmings in Idaho, Montana, and Washington have been found in peatlands characterized by extreme abiotic conditions that inhibit the decay of organic materials, allowing the soil to hold large quantities of water and maintain a relatively stable environment for plant and animal species.

Rationale for No Further Analysis

The northern bog lemming has a widespread distribution extending from Alaska to Labrador and south to portions of the northern U.S. This species reaches the southern extension of its range in northern Washington and Idaho, and are apparently relatively uncommon in this portion of their range. On the IPNF, they are only known to occur in the far northern (i.e., "Kaniksu" Zone) districts, not on the St. Joe Ranger District. Therefore, this project would have **no impact** on the northern bog lemming. No further analysis and discussion is necessary.

Townsend's Big-eared Bat

Species Overview

Townsend's big-eared bats are primarily cave-dwelling species. Although they occur in a wide variety of habitats, distribution tends to be correlated with the availability of caves, especially old mine workings (Pierson et al. 1999). Caves and cave-like structures are a critical habitat for this species, both as hibernacula in the winter and as roosts for summer nursery colonies. They occasionally use bridges and open buildings for roosting and in some places have been known to use building attics as maternity sites (Pierson et al. 1999). In northern Idaho, Townsend's big-eared bats primarily roost in abandoned mines. Loss and/or disturbance of hibernacula and roosting habitat are the limiting factor for Townsend's big-eared bats. Notable threats include abandoned mine closures, recreational caving, and renewed mining at previous mine sites (Pierson et al. 1999).

Rationale for No Further Analysis

Townsend's big-eared bats are only known to occur on the Kaniksu portion of the IPNF. Surveys on the St. Joe Ranger District have not caught or detected big-eared bats (Landreth 2002, and Derusseau 2003). There are no known mines or caves in the project area that may serve as potential habitat. The species is not known or suspected in the project area. Based on the lack of species occurrence, and of any suitable habitat (i.e., adits, mineshafts, or caves), there would be **no impact** on habitat or the species; and no further analysis or discussion is warranted.

Western Toad

Species Overview

Western or boreal toad breeding habitat includes shallow, quiet water in lakes, marshes, bogs, ponds, wet meadows, slow-moving streams, backwater channels of rivers, and other persistent water sources (Maxell 2000). Young toads are restricted in distribution and movement by available moist habitat, while adults can move several miles and reside in marshes, wet meadows, or forested areas. Toads hibernate in the winter in habitats that maintain high humidity and above-freezing temperatures. Areas that provide shelter for hibernating toads include rodent burrows, beaver lodges, and beaver dams (Loeffler 1998). Since this species depends on wetlands to breed, the reduction of wetlands or adverse impacts on wetlands could potentially have detrimental effects on western toads. Males appear to have a home range within 300 meters of breeding sites and show high site fidelity (Loeffler 1988); therefore, breeding habitat is likely the most important factor in maintaining toad presence in an area. It is important that toads be able to move among their seasonal habitats of breeding ponds, summer range, and overwinter refugia (Loeffler 1998). The biggest potential barrier to their movement is roads. Roadkill has been identified as a risk factor for the western toad (Maxell 2000). In addition to direct mortality, it has been suggested that steep road cuts can be a barrier to toads moving between seasonal habitats. Juvenile toads are vulnerable to being killed by motorized vehicles when they are dispersing from their natal ponds.

Based on habitat needs as described in the literature, the mesic nature of much of the forests of the IPNF indicates that toads have opportunities to find persistent small water sources for breeding, and could successfully disperse through moist forest to breeding and overwintering habitat.

There are no known observations of western toads within the project area; however, there are many mesic timbered stands present that could provide suitable habitat. Potential breeding habitat would be limited mainly to riparian areas along creeks, as there are no lakes, ponds, or marshes present in the project area. The project area is primarily an area with steep gradients leading to faster flowing creeks and streams and lacks low gradient, flatter streams that allow for pools, backwater eddies, etc., all of which are preferred habitat for western toads. There may be areas in the project area that have these flatter areas, so it is possible western toads are in the project area, but as a whole, the area is not ideal western toad habitat.

Rationale for No Further Analysis

The action alternatives may impact individual toads during project implementation. However, the Inland Native Fish Strategy (INFS) buffers and Best Management Practices (BMPs) states that all fish-bearing streams would be buffered by 300 feet. Perennial streams are buffered from activity by at least 150 feet. Smaller springs, seeps, and wetlands would be buffered by at least 50 feet if any are identified near or within harvest units. As a result, the potential for disturbance to breeding habitat and reproduction is discountable.

The project work and reasonably foreseeable activities within the analysis area would not affect breeding habitat, and potential mortality to individual toads from traffic related to these activities would be highly unlikely since the project work is expected in steeper areas, generally not suitable western toad habitat. While the action alternatives may affect individual toads to differing extents based on acres affected, they are not expected to be measurably different at the population level. Consequently, the Homestead project in conjunction with past, present, and reasonably foreseeable actions **may impact western toads or their habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species**.

Flammulated Owl, Pygmy Nuthatch, and Fringed Myotis

The flammulated owl, pygmy nuthatch, and fringed myotis are considered together as they are species that are closely tied to dry site habitat, typically consisting of large, mature, xeric ponderosa pine and/or Douglas fir forest.

Fringed myotis are members of the group of bats referred to as the “long-eared” bats. They use a fairly broad range of habitats represented by open areas (e.g. grasslands) interspersed with mature forests (usually ponderosa pine, pinion-juniper or oak) at middle elevations that contain suitable roost sites and are near water sources (Keinath 2004). Where available, fringed myotis use caves, mines, buildings and rock crevices as day, night, maternity or hibernation roost sites (Ellison et al. 2004). They also roost underneath the bark and inside cavities of snags, particularly larger ponderosa pine and Douglas-fir snags in medium stages of decay (O’Farrell and Studier 1980, Rabe et al. 1998, Weller and Zabel 2001, Rasheed et al. 1995).

FSVeg data and habitat validation surveys have determined there are only 117 acres of dry site habitat types in the project area, which is less than 1% of the project area (W-015) therefore, the presence of these species is highly unlikely. Based on the lack of species occurrence, and of any suitable habitat (dry-site habitat), there would be **no impact** on habitat or the species; and no further analysis or discussion is warranted.

Elk Security (Rocky Mountain Elk)

Habitat Relationships

Rocky Mountain elk are widely distributed throughout Idaho, using a variety of vegetation types ranging from sagebrush deserts in the southern portion of the state to dense cedar-hemlock forests in the north. They are considered habitat generalists, and their basic requirements include forage, water, and, where they are hunted, hiding cover and secure areas (Leege 1984). Lower elevation winter range with good cover and forage or browse is also important to elk. Availability and distribution of these habitat components on each seasonal range determine the distribution and number of elk that may be supported (W-016 and W-017).

Because of their popularity as a hunted species, elk are particularly vulnerable to disturbance emanating from increased human access into elk habitat. As a result, motorized access management is viewed as an important tool for managing elk populations in Idaho. The IPNF Forest Plan addresses this issue through the concept of "elk security" - roughly based on recommendations from Hillis et al (1991).

The Forest Plan (FW-GDL-WL-13) states that secure elk habitat should be maintained or improved on NFS lands during the hunting season. The action alternatives include installing gates in the elk management unit to compensate for the loss of elk security that would result from openings that would be created with the proposed timber harvest (Map 2). Timber harvest can benefit security habitat over time if it is done to trend towards historic conditions and desired conditions for vegetation. In doing so, the resiliency of the timbered stand component of security habitat is improved or maintained and secure habitat is less likely to be lost to a large-scale disturbance (fire, insects, and disease).

No timber harvest will occur in elk security so current levels of elk security will be maintained in Elk Management Unit 6-5. Because of changes to road prescriptions, elk security will actually increase in EMU 6-5. Current levels of elk security in the Homestead project area are currently 1,394 acres (see map 1 Appendix D). Elk security in the project area will increase because of the following changes to roads:

- **548 A – 0.6 miles** Currently Open to OHV and High Clearance Vehicles on MVUM. Recommend removing last .6 miles from MVUM.
- **1936 B – 1.14 miles** Currently On MVUM for < 50" vehicles. Recommend decommissioning.
- **548 – 3.21 miles** Currently on MVUM open for OHV and High- Clearance vehicles. Recommend decommissioning.
- **548 UA – 1.06 miles** Currently Not on MVUM – Recommend adding as an open road.
- **548 UE – 0.18 miles** Currently Not on MVUM. Recommend adding as an open road.
- **216 A - 0.26 miles** Currently Not on MVUM. Recommend opening it to OHV and high clearance vehicles.

Based on these road prescription changes, 4.95 miles of roads will be decommissioned and 1.5 miles will be added to the MVUM. These changes result in an increase of 114 acres of elk security in the Homestead project area and EMU 6-5.

Map 1: Elk Security in Homestead Project Area and EMU 6-5

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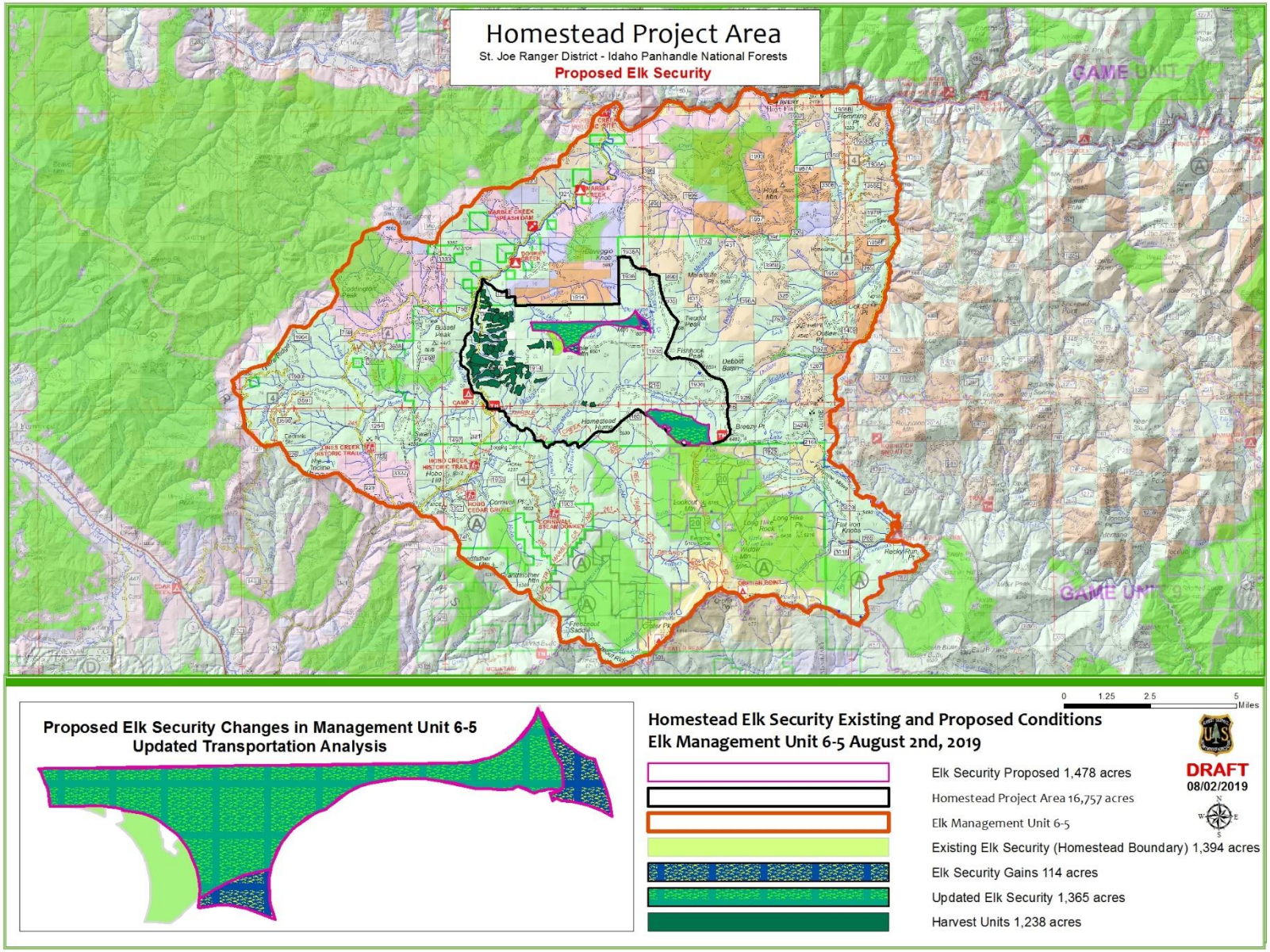

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